

REMARKS:

Claims 3-14 are in the case and presented for consideration.

The relevant preferred headings of 37 C.F.R. §1.77(b) have been added to the specification at the points deemed most appropriate. Accordingly the objections to the specification are believed overcome.

Claims 1 and 2 have been canceled and rewritten as new claims 3 and 4 in a form more amenable to U.S. practice. Claims 3 and 4 recite substantially the same subject matter as claims 1 and 2, except that the indefinite phrasing in claim 1, "in particular, water," has been deleted in claim 3. Dependent claims have been added to specify the liquid is water. Other dependent claims are added to recite two alternative embodiments of the motor and the presence of three-way valves for controlling the liquid flow. The limitations recited in the new dependent claims are supported by the specification as filed on page 3 at lines 6-8, 29-30, page 4 at lines 11-12, and in the drawings. No new matter has been added.

Claims 1 and 2 were rejected pursuant to 35 U.S.C. §102 as anticipated by the disclosure of U.S. Patent 4,824,732 to Hendry et al. Hendry '732 is cited as teaching an apparatus for injection molding plastic material including a device for introducing a liquid into the interior of the plastic material in the mold. Hendry '732 is stated to teach the device includes a motor driving a pump, whereby the stroke volume of the pump is variable to produce a given delivery amount.

Applicants respectfully disagree that Hendry '732 anticipates the invention as now claimed in claims 3-1. Applicants submit that the invention as claimed is different from the apparatus of Hendry '732 for the following reasons.

While Hendry '732 describes injection of a liquid, the apparatus is different from

the components claimed by applicants. Hendry '732 discloses using a volumetric metering piston 20 having a ram 39 driven by a hydraulic pump 28 operated by an electric motor 29 through a two-directional solenoid operated valve 30. Col. 4, lines 17-19, and 34-39. The metering piston 20 is used to select an amount of gas to inject into the mold material. Then the ram 39 is driven forward by the pump 28 to push the piston 20 inside metering chamber 21 and force the gas into the mold. Once the piston 20 has reached its terminal point, the device cannot inject any more gas into the mold; it is a single shot device.

Applicants submit that Hendry '732 does not teach a pump driven by a motor injecting the fluid into the mold. The pump in Hendry '732 is simply provided to produce the pressure needed to drive the piston 20. The pump of Hendry '732 does not actually have the injected fluid pass through it, so that the pump 28 does not actually inject any fluid into the mold material.

In view of these differences, applicants submit that claims 3-14 are novel and non-obvious from the cited reference.

Additionally, in respect of dependent claims 7, 9, 11 and 14 which all recite the liquid is water, applicants observe that Hendry '732 excludes water from consideration. At column 2, lines 10-15, Hendry '732 states that water is specifically not a suitable liquid for use with the apparatus disclosed since it is not considered an inert fluid. Thus, Hendry '732 disqualifies water as a fluid used with the apparatus. Hendry '732 thus teaches away from the limitation claimed by applicant, further distinguishing the claims from the cited reference.

New claims 5, 6, 8, 10, 12 and 13 recite features which applicants believe are not disclosed by the Hendry '732 patent either. In particular, a particular type of motor

driving a pump injecting liquid into the mold material is not disclosed. Positioning three-way valves between the liquid pump and mold is not disclosed or suggested either.

These differences distinguish these claims in addition to those noted above.

Accordingly, the application is believed to be in proper form and condition for allowance, and favorable action is respectfully requested. No new matter has been added.

If any issues remain which may be resolved by telephonic communication, the Examiner is respectfully invited to contact the undersigned at the number below, if such will advance the application to allowance.

Respectfully submitted,



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